

$$\begin{aligned}
 4(i) \quad & 108 \times 192 \\
 & = 2^2 \times 3^3 \times 2^6 \times 3 \\
 & = 2^{2+6} \times 3^{3+1} \\
 & = 2^8 \times 3^4
 \end{aligned}$$

2	192
2	96
2	48
2	24
2	12
2	6
	3

2	108
2	54
3	27
3	9
	3

$$4(ii) \quad 270 = 2 \times 3^3 \times 5$$

2	270
3	135
3	45
3	15
	5

$$\begin{aligned}
 4(iii) \quad & 729 \times 64 \\
 & = 3^6 \times 2^6 \\
 & = (3 \times 2)^6 \\
 & = 6^6
 \end{aligned}$$

2	64
2	32
2	16
2	8
2	4
	2

3	729
3	243
3	81
3	27
3	9
	3